

CLAIMS

1. A data receiving apparatus comprising:

an estimator that estimates characteristics of a propagation path;

5 a calculator that calculates a likelihood of a received signal based on the propagation path characteristics estimated by the estimator;

an equalization processor that performs equalization processing upon the received signal; and

10 a generator that generates soft decision data based on the likelihood calculated by the calculator and an output of the equalization processor.

2. The data receiving apparatus according to claim 1,
15 wherein the likelihood is a reception quality.

3. The data receiving apparatus according to claim 1,
wherein the received signal comprises a plurality of slots each containing a known signal;

20 wherein the estimator estimates an impulse response on a per slot basis using the known signal contained in each slot of the received signal;

wherein the calculator calculates the likelihood on a per slot basis based on the impulse response; and

25 wherein the generator generates the soft decision data based on the likelihood calculated by the calculator on a per slot basis and the output of the equalization

processor.

4. The data receiving apparatus according to claim
3, wherein the likelihood is a power ratio of the impulse
5 response to an error power between a replica of the received
signal and the received signal acquired using the impulse
response, in a known signal interval.

5. The data receiving apparatus according to claim
10 1,

wherein the received signal comprises a plurality
of slots each containing a plurality of known signals;

wherein the estimator estimates a plurality of
impulse responses each corresponding to the plurality
15 of known signals on a per slot basis, by using the plurality
of known signals contained in each slot of the received
signal;

wherein the calculator calculates a plurality of
likelihoods each corresponding to the plurality of
20 impulse responses based on the plurality of impulse
responses on a per slot basis; and

wherein the generator generates the soft decision
data based on the plurality of likelihoods calculated
by the calculator on a per slot basis and the output of
25 the equalization processor.

6. The data receiving apparatus according to claim

5, wherein the likelihood is a power ratio of the impulse response to an error power between a replica of the received signal and the received signal acquired using the impulse response, in a known signal interval.

5

7. A data receiving method, comprising:

an estimation step of estimating characteristics of a propagation path;

10 a calculation step of calculating a likelihood of a received signal based on the propagation path characteristics estimated in the estimation step;

an equalization processing step of performing equalization processing upon the received signal; and

15 a generation step of generating soft decision data based on the likelihood calculated in the calculation step and an output of the equalization processing step.